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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/749,766	11/20/1996	RANDALL B. METCALF	21285.0103	3143

29315 7590 10/29/2003

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ART UNIT	PAPER NUMBER
2644	38

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/749,766	METCALF, RANDALL B.	
	Examiner	Art Unit	
	Daniel Swerdlow	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-10,12-15,17-19 and 21-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-10,12-15,17-19 and 21-55* is/are rejected.

7)☒ Claim(s) *2,8,38,41,47,48 and 52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☒ Interview Summary (PTO-413) Paper No(s). *38* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Prosecution is reopened in accordance with MPEP sections 1214.04 and 1002.02(c). To avoid abandonment of the application, appellant must file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final).

Claim Objections

2. Claims 2, 8 and 38 are objected to because of the following informalities:

3. Claim 2 recites "loudspeaker means comprises *a one* or more loudspeakers" (emphasis added).

4. Claim 8 recites "amplifier means comprises *a one* or more amplifiers" (emphasis added).

5. Claim 38 recites "one or more plurality of sound sources". For consistency, this should read "one or more sound sources", "one or a plurality of sound sources" or "one or more pluralities of sound sources".

Appropriate correction is required.

6. Claims 41, 47, 51 and 55 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

7. Claims 41 and 47 recite "two or more of the plurality of separately received audio signals *can be* combined to share a designated amplification means or loudspeaker means" (emphasis added). It is inherent that two or more separately received audio signals can be combined since

one skilled in the art would have known numerous ways (e.g., transformers, summing amplifiers) by which audio signal combination could be done. Because the limitation is inherent in the independent claim, the dependent claim is not further limiting.

8. Claims 48 and 52, from which Claims 51 and 55, respectively, depend recite the limitations "separately amplifying each of the plurality of audio signals; and separately supplying each of the audio signals to a loudspeaker system to reproduce the original plurality of sounds." As such, Claims 51 and 55, by claiming combining two or more of the separately received audio signals to share a designated amplifier means or loudspeaker means effectively remove limitations from the parent claims and are, therefore, improper for not further limiting those claims.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 15, 17 through 19, 21, 22 and 30 through 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 15, 19 and 30 through 34 are mixed method and apparatus claims, reciting a series of method steps and an apparatus element. A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set

forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only (see MPEP 2173.05(p)).

11. Claims 17 and 18 are indefinite due to dependence from Claim 15.

12. Claims 21 and 22 are indefinite due to dependence from Claim 19.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claim 7 recites the limitation " the customization of the loudspeakers ". There is insufficient antecedent basis for this limitation in the claim.

15. Claims 15, 17 through 19, 21, 22 and 30 through 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for reasons stated above under *Claim Rejections - 35 USC § 101.*

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 35, 37, 41 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Phinney (US Patent 1,765,735).

18. Claim 35 claims a sound system for capturing and reproducing sounds produced by a plurality of sound sources. Phinney discloses use of sound recording devices, each corresponding to a particular section of a concerted performance, whereby the complete characteristics of each section may be separately recorded and controlled, together with a plurality of corresponding reproducing devices (page 1, lines 22-31). Claim 35 further claims the system comprises means for separately receiving sounds produced by the plurality of sound sources, each sound source having separate sonic characteristics. Phinney discloses a microphone located in each chamber corresponding to a group of instruments (Fig. 1 reference 8, 9; page 2, lines 43-45) with percussion instruments in the right-hand chamber, the brass instruments in the next chamber, the wood-wind instruments in the next chamber, the stringed instruments in the next chamber, etc. (Fig. 1, reference 4, 5, 6, 7; page 2, lines 21-26) wherein the entire characteristics of each group of instruments is incorporated in a separate record so that, if desired, the characteristics of one group of instruments as formed on the records may be controlled without affecting the characteristics of any other group (page 2, lines 62-68). Claim 35 further claims the system comprises means for converting the separately received sounds to a plurality of separate audio signals without mixing the audio signals. Phinney discloses the output of each microphone connected to a corresponding distortionless amplifying device (Fig. 1, reference 11, 12; page 2, lines 46-48). Claim 35 further claims the system comprises means for separately storing the plurality of separate audio signals without mixing the audio signals. Phinney discloses the outputs of the amplifying devices being in turn associated with electromechanical recording devices, which, by means of their styli produce corresponding cuttings in the wax record blanks (Fig. 1, reference 13, 14, 15, 16, 17; page 2, lines 48-52).

Claim 35 further claims the system comprises means for separately retrieving the stored audio signals. Phinney discloses a plurality of loud speaking devices, each adapted to be operated under control of a corresponding one of the sound records for the purpose of reproducing the recorded program (Fig. 2 reference 18, 19; page 2, lines 69-74). Claim 35 further claims the system comprises an amplification network comprising a plurality of amplifier means, with separate amplifier means for separately amplifying each of the separate audio signals. Phinney discloses a suitable amplifying device connected between each pick-up device and its associated loud speaker (Fig. 2, reference 27, 28; page 2, lines 101-104). Claim 35 further claims the system comprises a loudspeaker network comprising a plurality of loudspeaker means, with separate loudspeaker means for reproducing the separately amplified audio signals. Phinney discloses a plurality of loud speaking devices each adapted to be operated under control of a corresponding one of the sound records for the purpose of reproducing the recorded program (Fig. 2, reference 18, 19; page 2, lines 69-74). Therefore, Phinney anticipates all elements of Claim 35.

19. Claim 37 claims the system of Claim 35 wherein each of the plurality of sound sources comprises a group of individual sound sources. As stated above apropos of Claim 35, Phinney anticipates all elements of that claim. In addition, Phinney discloses percussion instruments occupying the right-hand chamber, brass instruments occupying the next chamber, wood-wind instruments occupying the next chamber, stringed instruments occupying the next chamber, etc. (Fig. 1, reference 4, 5, 6, 7; page 2, lines 21-26). Therefore, Phinney anticipates all elements of Claim 37.

20. Regarding Claim 41, as stated above under Claim Objections, Claim 41 is not further limiting on Claim 35. Therefore, Phinney anticipates all elements of Claim 41 for reasons stated above apropos of Claim 35.

21. Claim 48 claims a method of recording and reproducing sound. Phinney discloses use of sound recording devices, each corresponding to a particular section of a concerted performance, whereby the complete characteristics of each section may be separately recorded and controlled, together with a plurality of corresponding reproducing devices (page 1, lines 22-31). Claim 48 further claims the method comprises separately capturing a plurality of sounds from a plurality of sound sources each sound source having unique sonic characteristics and designating each of the plurality of received sounds based on the sonic characteristics of each of the corresponding sound sources. Phinney discloses a microphone located in each chamber corresponding to a group of instruments (Fig. 1 reference 8, 9; page 2, lines 43-45) with percussion instruments in the right-hand chamber, the brass instruments in the next chamber, the wood-wind instruments in the next chamber, the stringed instruments in the next chamber, etc. (Fig. 1, reference 4, 5, 6, 7; page 2, lines 21-26) wherein the entire characteristics of each group of instruments is incorporated in a separate record so that, if desired, the characteristics of one group of instruments as formed on the records may be controlled without affecting the characteristics of any other group (page 2, lines 62-68). Claim 48 further claims the method comprises converting each of the plurality of sounds to an audio signal. Phinney discloses the output of each microphone connected to a corresponding distortionless amplifying device (Fig. 1, reference 11, 12; page 2, lines 46-48). Claim 48 further claims the method comprises separately recording each of the audio signals. Phinney discloses the outputs of the amplifying devices being in turn

associated with electromechanical recording devices, which, by means of their styli produce corresponding cuttings in the wax record blanks (Fig. 1, reference 13, 14, 15, 16, 17; page 2, lines 48-52). Claim 48 further claims the method comprises separately retrieving each of the audio signals. Phinney discloses a plurality of loud speaking devices, each adapted to be operated under control of a corresponding one of the sound records for the purpose of reproducing the recorded program (Fig. 2 reference 18, 19; page 2, lines 69-74). Claim 48 further claims the method comprises separately amplifying each of the plurality of audio signals. Phinney discloses a suitable amplifying device connected between each pick-up device and its associated loud speaker (Fig. 2, reference 27, 28; page 2, lines 101-104). Claim 48 further claims the method comprises separately supplying each of the audio signals to a loudspeaker system to reproduce the original plurality of sounds. Phinney discloses a plurality of loud speaking devices each adapted to be operated under control of a corresponding one of the sound records for the purpose of reproducing the recorded program (Fig. 2, reference 18, 19; page 2, lines 69-74). Therefore, Phinney anticipates all elements of Claim 48.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. Claims 1, 9, 10, 15, 19, 23 through 34, 42, 43 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Lovejoy (US Patent 5,046,101).

Independent Claims

24. Independent Claims 1, 9, 10, 15, 19, 23 through 34, 42, 43 and 52 overlap significantly in terms of subject matter. As such, essentially equivalent elements of different claims are met by certain teachings in the prior art. Because of the unusually large number of independent claims in the application, examiner presents below the claim elements of these independent claims, grouped by category along with the teachings from the prior art that meet these elements. This is done for applicant's convenience, to demonstrate the obviousness of the claimed invention without undue repetition.

Preamble

25. Claims 1, 23, 24, 25: A sound system for capturing and reproducing sounds produced by a plurality of sound sources

26. Claims 9, 26, 27, 28: A sound system for recording and reproducing sounds produced by a plurality of sound sources

27. Claims 10, 29, 43: A system for reproducing sounds produced by a plurality of sound sources

28. Claims 15, 30, 31, 32: A method of recording and reproducing sound

29. Claims 19, 33, 34, 52: A method of sound reproduction

30. Claim 42: A sound system for capturing and reproducing sounds produced by a plurality of sound sources, each sound source having unique sonic source characteristics

31. Phinney: "A feature of the invention pertains to the use of sound recording devices, each corresponding to a particular section of a concerted performance, whereby the complete characteristics of each section may be separately recorded and controlled, together with a

plurality of corresponding reproducing devices whose individual operations are combined to give to an auditor an impression corresponding to that of an original performance." (page 1, lines 22-31)

32. "percussion instruments 4 of the orchestra may occupy the right-hand chamber, the brass instruments 5 occupy the next chamber, the wood-wind instruments 6 occupy the next chamber, the stringed instruments 7 occupy the next chamber, etc." (Fig. 1; page 2, lines 21-26)

Receiving, Capturing Designating

33. Claims 1, 9, 42: comprising: means for separately receiving sounds produced by the plurality of sound sources;

34. Claims 15, 19, 30, 31, 32, 33, 34 comprising the steps of: capturing a plurality of sounds from a plurality of sound sources;

35. Claim 23: comprising: means for separately receiving sounds produced by the plurality of sound sources, each receiving means associated with a single sound source;

36. Claims 24, 25, 26, 27, 28: comprising: means for separately receiving a plurality of audio signals produced by the plurality of sound sources, each receiving means being associated with a single sound source;

37. Claim 29: comprising: means for separately receiving a plurality of audio signals produced by the plurality of sound sources, without mixing the audio signals, each receiving means being associated with a single sound source;

38. Claims 42, 43: means for designating each of the plurality of received sounds based on one or more of the sonic characteristics corresponding to each sound source;

39. Claim 43: means for separately receiving a plurality of audio signals produced by the plurality of sound sources without mixing the audio signals, each sound source having separate sonic characteristics;

40. Claim 52: comprising the steps of: separately capturing a plurality of sounds from a plurality of sound sources each sound source having unique sonic characteristics; designating each of the plurality of received sounds based on the sonic characteristics of each of the corresponding sound sources;

41. Phinney: "Located in each chamber corresponding to a group of instruments is a microphone 8, 9, etc." (Fig. 1; page 2, lines 43-45)

42. Phinney: "percussion instruments 4 of the orchestra may occupy the right-hand chamber, the brass instruments 5 occupy the next chamber, the wood-wind instruments 6 occupy the next chamber, the stringed instruments 7 occupy the next chamber, etc." (Fig. 1; page 2, lines 21-26)

43. Phinney: "the entire characteristics of each group of instruments is incorporated in a separate record so that, if desired, the characteristics of one group of instruments as formed on the records may be controlled without affecting the characteristics of any other group." (page 2, lines 62-68)

Converting

44. Claims 1, 9, 23, 24, 25, 26, 27, 28, 42: means for converting the separately received sounds to a plurality of separate audio signals without mixing the audio signals;

45. Claims 15, 19, 30, 31, 32, 33, 34, 52: converting each of the plurality of sounds to an audio signal;

46. Phinney: "The output of each microphone is connected to a corresponding distortionless amplifying device 11, 12, etc.," (Fig. 1; page 2, lines 46-48)

Recording Medium

47. Claims 9, 26, 27, 28, 42: a recording medium;

48. Phinney: produce corresponding cuttings in the wax record blanks 17." (Fig. 1; page 2, lines 48-52)

Storing or Transmitting

49. Claims 1, 24, 25: means for separately storing the plurality of separate audio signals without mixing the audio signals;

50. Claims 9, 27, 28, 42: means for separately storing the plurality of separate audio signals on the recording medium without mixing the audio signals;

51. Claims 15, 31, 32: separately recording each of the audio signals;

52. Claims 19, 34, 52: separately transmitting each of the audio signals without mixing the audio signals;

53. Claim 23: means for simultaneously and separately storing the plurality of separate audio signals without mixing the audio signals;

54. Claim 26: means for simultaneously and separately storing the plurality of separate audio signals on the recording medium without mixing the audio signals;

55. Claim 30: simultaneously and separately recording each of the audio signals;

56. Claim 33: simultaneously and separately transmitting each of the audio signals without mixing the audio signals; (see Claim 19)

57. Claim 43: means for transmitting the plurality of separately received audio signals without mixing the audio signals; (see Claim 19)

58. Phinney: "the output of which is in turn associated with the electromechanical recording device 13, 14, etc., which, by means of their styli 15, 16, produce corresponding cuttings in the wax record blanks 17" (Fig. 1; page 2, lines 48-52). Further, the conveying of the amplified audio signals from the amplifying devices to the electromechanical recording devices constitutes transmission.

Retrieving, Reading, Reproducing

59. Claims 1, 23, 42: means for separately retrieving the stored audio signals;

60. Claims 9, 26, 28: means for reading the stored audio signals from the recording medium and recreating the plurality of separate audio signals;

61. Claim 10: means for separately receiving a plurality of audio signals produced by the plurality of sound sources without mixing the audio signals;

62. Claims 15, 30, 32: separately retrieving each of the audio signals;

63. Claim 24: means for simultaneously and separately retrieving a plurality of the stored audio signals;

64. Claim 25: means for separately retrieving a plurality of the stored audio signals;

65. Claim 27: means for reading the stored audio signals from the recording medium simultaneously and recreating the plurality of separate audio signals;

66. Claim 31: simultaneously and separately retrieving each of the audio signals;

67. Phinney: "For the purpose of reproducing the program recorded by the apparatus in Fig. 1, a plurality of loud speaking devices 18, 19 are provided, each loud speaker being adapted to be operated under control of a corresponding one of the sound records 17." (Fig. 2; page 2, lines 69-74)

Amplifying

68. Claims 1, 23, 24, 42: an amplification network comprising a plurality of amplifier means, with separate amplifier means for separately amplifying each of the separate audio signals;

69. Claims 9, 26, 27: an amplification network comprising a plurality of amplifier means, with separate amplifier means for separately amplifying each of the recreated plurality of separate audio signals;

70. Claims 10, 43: an amplification network comprising a plurality of amplifier means, with separate amplifier means for amplifying each of the plurality of audio signals;

71. Claims 15, 19, 30, 31, 33: separately amplifying each of the plurality of audio signals;

72. Claim 25: an amplification network comprising a plurality of amplifier means, with separate amplifier means for simultaneously and separately amplifying each of the separate audio signals;

73. Claim 28: an amplification network comprising a plurality of amplifier means, with separate amplifier means for simultaneously and separately amplifying each of the recreated plurality of separate audio signals;

74. Claim 29: an amplification network comprising a plurality of amplifier means, with separate amplifier means for simultaneously amplifying each of the plurality of audio signals;

75. Claims 32, 34: simultaneously and separately amplifying each of the plurality of audio signals;

76. Claim 52: separately amplifying each of the plurality of audio signals;

77. Phinney: "Connected between each pick-up device and its associated loud speaker is a suitable amplifying device 27, 28, etc." (Fig. 2; page 2, lines 101-104)

Loudspeakers

78. Claims 1, 23, 24, 25: a loudspeaker network comprising a plurality of loudspeaker means, with separate loudspeaker means for reproducing the separately amplified audio signals;

79. Claims 9, 26, 27, 28: a loudspeaker network comprising a plurality of loudspeaker means, with separate loudspeaker means for separately reproducing the amplified audio signals;

80. Claims 10, 43: a loudspeaker network comprising a plurality of customized loudspeaker means, with separate loudspeaker means for separately reproducing each of the separately amplified audio signals;

81. Claims 15, 19, 30, 31, 32, 33, 34, 52: separately supplying each of the audio signals to a loudspeaker system to reproduce the original plurality of sounds;

82. Claim 29: a loudspeaker network comprising a plurality of loudspeaker means, with separate loudspeaker means for separately reproducing each of the separately amplified audio signals;

83. Claim 42: a loudspeaker network comprising a plurality of loudspeaker means, with separate loudspeaker means for reproducing separately the amplified audio signals;

84. Phinney: "For the purpose of reproducing the program recorded by the apparatus in Fig. 1, a plurality of loud speaking devices 18, 19 are provided, each loud speaker being adapted to be operated under control of a corresponding one of the sound records 17." (Fig. 2; page 2, lines 69-74)

85. Claims 10 and 43 claim "customized loudspeaker means". Phinney discloses "loud speakers ... designed to reproduce sounds of certain instruments" in conjunction with another embodiment (page 3, lines 98-101). It would have been obvious to one skilled in the art at the time of the invention to apply specially designed (i.e., customized) loudspeakers as taught by the second embodiment of Phinney to the sound reproduction in the first embodiment of Phinney for the purpose of more faithfully reproducing the sounds of certain instruments.

Dynamic Level Control

86. Claims 1, 26, 27: and a dynamic control means for individually controlling the relative amplitude of the separate audio signals for a given power level based on predetermined criteria.

87. Claims 9, 10, 15, 19, 23, 24, 25, 28, 29, 30, 31, 32, 33, 34: and a dynamic control means for individually controlling the relative amplitudes of the separate audio signals for a given system power level based on predetermined criteria.

88. Claim 42: and a dynamic controller for separately dynamically controlling the loudspeaker network and the amplification network according to predetermined control schemes

that take into account the change in dynamic relationship among the separate sounds being reproduced based on changes in the output levels of the audio signal.

89. Therefore, Phinney anticipates or makes obvious all elements of Claims 1, 9, 10, 15, 19, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34 and 42 with the exception of the dynamic control element. Lovejoy discloses an audio dosage control system for a multichannel audio system that dynamically adjusts total system output over frequency bands to limit cumulative sound dosage (column 2, lines 31-36). It would have been obvious to one skilled in the art at the time of the invention to apply the audio dosage control system taught by Lovejoy to the recording and reproducing system taught by Phinney for the purpose of protecting the hearing of those in attendance.

Dependent Claims

90. Claims 36 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney.

91. Claim 36 claims the system of Claim 35 wherein said separate loudspeaker means comprises one or more loudspeakers or groups of loudspeakers which are customized based on the sonic characteristics of one or more of the plurality of sound sources designated to be reproduced by each loudspeaker or group of loudspeakers. As stated above apropos of Claim 35, Phinney anticipates all elements of that claim. Therefore, Phinney anticipates all elements of Claim 36 with the exception of the separate loudspeaker means comprising one or more loudspeakers or groups of loudspeakers which are customized based on the sonic characteristics of one or more of the plurality of sound sources designated to be reproduced by each loudspeaker

or group of loudspeakers. In conjunction with another embodiment, Phinney discloses "loud speakers ... designed to reproduce sounds of certain instruments" (page 3, lines 98-101). It would have been obvious to one skilled in the art at the time of the invention to apply specially designed (i.e., customized) loudspeakers as taught by the second embodiment of Phinney to the sound reproduction in the first embodiment of Phinney for the purpose of more faithfully reproducing the sounds of certain instruments.

92. Claim 40 claims the system of Claim 36 wherein the customization of the loudspeakers includes one or more of audio characteristics of the loudspeakers, the configuration of the loudspeakers, or the directionality of the loudspeakers. As stated above apropos of Claim 36, Phinney makes obvious all elements of that claim. In addition, Phinney discloses customization including audio characteristics of the loudspeakers. Therefore Phinney makes obvious all elements of Claim 40.

93. Claims 2, 4, 6, 7, 12, 13, 14, 17, 18, 21, 22, 39, 44, 45, 46, 47, 49, 50, 53 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Lovejoy.

94. Claim 2 claims the system of Claim 1 wherein said separate loudspeaker means comprises a one or more loudspeakers or groups of loudspeakers. As stated above, the combination of Phinney and Lovejoy makes obvious all elements of Claim 1. In addition, Phinney discloses a plurality of loud speaking devices, each adapted to be operated under control of a corresponding one of the sound records (Fig. 2, reference 18, 19; page 2, lines 69-74). Therefore, the combination makes obvious all elements of Claim 2.

95. Claims 4, 12 and 44 claim the systems of Claims 1, 10 and 43, respectively, wherein each of the plurality of sound sources comprises a group of individual sound sources. As stated above, the combination of Phinney and Lovejoy makes obvious all elements of Claims 1, 10 and 43. In addition, Phinney discloses percussion instruments occupying the right-hand chamber, brass instruments occupying the next chamber, wood-wind instruments occupying the next chamber, stringed instruments occupying the next chamber, etc. (Fig. 1, reference 4, 5, 6, 7; page 2, lines 21-26). Therefore, the combination makes obvious all elements of Claims 4, 12 and 44.

96. Claims 6, 13, 14, 17, 18, 21, 22, 39, 45, 46, 49, 50, 53 and 54 claim the systems or methods of Claims 1, 10, 10, 15, 15, 19, 19, 35, 43, 48, 48, 52 and 52 respectively, wherein the amplification means and/or the loudspeaker means are separately controlled or controllable. Lovejoy discloses separate control units (Fig. 1, reference 34, 35, 36, 37) that separately control the individual amplifiers (Fig. 1, reference 49) and thereby control the individual speaker arrays (Fig. 1, reference 20, 21, 22, 23) (column 4, lines 27-50). It would have been obvious to one skilled in the art at the time of the invention to apply the audio dosage control system taught by Lovejoy to the recording and reproducing system taught by Phinney for the purpose of protecting the hearing of those in attendance.

97. Regarding Claim 47, as stated above under Claim Objections, Claim 47 is not further limiting on Claim 43. Therefore, the combination of Phinney and Lovejoy makes obvious all elements of Claim 47 for reasons stated above apropos of Claim 43.

98. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Lovejoy and further in view of Santucci (US Patent 4,377,101).

99. Claim 5 claims the system of Claim 1 wherein each of the amplification means is customized for the audio signal to be amplified by that amplifier means. As stated above apropos of Claim 1, the combination of Phinney and Lovejoy makes obvious all elements of that claim. Therefore the combination makes obvious all elements of Claim 5 with the exception of each of the amplification means being customized for the audio signal to be amplified by that amplifier means. Santucci discloses the use of amplifiers of different characteristics for different musical instrument types (column 2, lines 35-45). It would have obvious to one skilled in the art at the time of the invention to apply the use of amplifiers designed for particular sound types as taught by Santucci to the combination made obvious by Phinney and Lovejoy for the purpose of properly amplifying the sounds.

100. Claim 8 claims the system of Claim 1 wherein each amplifier means comprises one or more amplifiers or groups of amplifiers which are customized for amplification of the type of audio signals to be amplified by each amplifier or group of amplifiers. As stated above apropos of Claim 1, the combination of Phinney and Lovejoy makes obvious all elements of that claim. Therefore the combination makes obvious all elements of Claim 8 with the exception of each amplifier means comprising one or more amplifiers or groups of amplifiers which are customized for amplification of the type of audio signals to be amplified by each amplifier or group of amplifiers. Santucci discloses the use of amplifiers of different characteristics for different musical instrument types (column 2, lines 35-45). It would have obvious to one skilled in the art at the time of the invention to apply the use of amplifiers designed for particular sound types as taught by Santucci to the combination made obvious by Phinney and Lovejoy for the purpose of properly amplifying the sounds.

101. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Santucci.

102. Claim 38 claims the system of Claim 35 wherein each of the amplification means is customized based on the sonic characteristics of one or more plurality of sound sources designated to be amplified by that amplifier means. As stated above apropos of Claim 35, Phinney anticipates all elements of that claim. Therefore Phinney anticipates all elements of Claim 38 with the exception of each of the amplification means being customized based on the sonic characteristics of one or more plurality of sound sources designated to be amplified by that amplifier means. Santucci discloses the use of amplifiers of different characteristics for different musical instrument types (column 2, lines 35-45). It would have obvious to one skilled in the art at the time of the invention to apply the use of amplifiers designed for particular sound types as taught by Santucci to the system taught by Phinney for the purpose of properly amplifying the sounds.

103. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Kurosawa (US Patent 4,433,209).

104. Claim 51 claims the method of Claim 48 including combining two or more of the separately received audio signals to share a designated amplifier means or loudspeaker means. As stated above apropos of Claim 48, Phinney anticipates all elements of that claim. Therefore Phinney anticipates all elements of Claim 51 with the exception of combining two or more of the separately received audio signals to share a designated amplifier means or loudspeaker means.

Kurosawa discloses the combination of two audio channels to share a speaker when fewer speakers than audio channels are available (column 1, lines 34-37; column 2, lines 49-54). It would have obvious to one skilled in the art at the time of the invention to apply the combining of audio channels as taught by Kurosawa to the system taught by Phinney for the purpose of reproducing all sounds when fewer loudspeakers than channels are available.

105. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phinney in view of Lovejoy and further in view of Kurosawa.

106. Claim 55 claims the method of Claim 53 including combining two or more of the separately received audio signals to share a designated amplifier means or loudspeaker means. As stated above apropos of Claim 53, the combination of Phinney and Lovejoy makes obvious all elements of that claim. Therefore the combination makes obvious all elements of Claim 55 with the exception of combining two or more of the separately received audio signals to share a designated amplifier means or loudspeaker means. Kurosawa discloses the combination of two audio channels to share a speaker when fewer speakers than audio channels are available (column 1, lines 34-37; column 2, lines 49-54). It would have obvious to one skilled in the art at the time of the invention to apply the combining of audio channels as taught by Kurosawa to the combination made obvious by Phinney and Lovejoy for the purpose of reproducing all sounds when fewer loudspeakers than channels are available.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 257,453 to Ader discloses live transmission of multi-channel audio for simultaneous reception and reproduction at remote locations.

US Patent 572,981 to Goulvin discloses a transducer customized for reproducing sounds form a particular instrument.

US Patent 3,540,545 to Herleman et al. discloses a loudspeaker designed to reproduce sound corresponding to a particular class of instruments.

US Patent 3,944,735 to Willcocks discloses a controller for a multichannel audio system that controls total output power during variations in individual channel output.

US Patent 4,683,591 to Dawson et al. discloses an audio system that switches additional amplifiers onto a channel when additional power is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 703-305-4088. The examiner can normally be reached on Monday through Friday between 8:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forrester Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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